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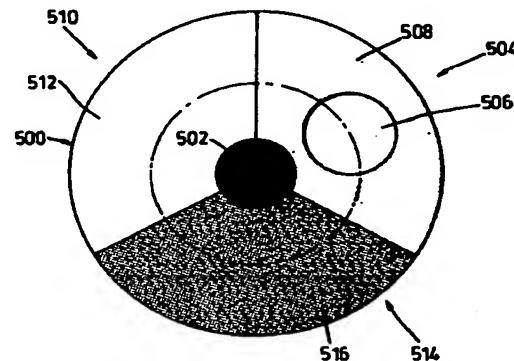
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### (54) Obscurement device

(57) An illumination obscurement device for controlling the obscurement of illumination from a light source which is optimized for use with a rectangular, arrayed, selective reflection device. In a preferred embodiment, a rotatable shutter (500) with three positions (504, 510, 516) is placed between a light source (602) and a DMD (604). The first position of the shutter is a mask (504), preferably an out of focus circle. This out of focus circle creates a circular mask and changes any unwanted dim reflection to a circular shape. The second position of the shutter is completely open (510), allowing substantially all the light to pass. The third position of the shutter is completely closed (514), blocking substantially all the light from passing. By controlling the penumbra illumination surrounding the desired illumination, DMDs (604) can be used in illumination devices without creating undesirable rectangular penumbras (628).



*Fig. 5*

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## EUROPEAN SEARCH REPORT

Application Number  
EP 99 30 5217

| DOCUMENTS CONSIDERED TO BE RELEVANT  |  |                                     |  |
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| Category   | Citation of document with indication, where appropriate, of relevant passages  | Relevant to claim                   | CLASSIFICATION OF THE APPLICATION (IntCL7) |
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| X  | US 5 633 755 A (MANABE YUJI ET AL)<br>27 May 1997 (1997-05-27)<br><br>* column 1, line 42-55 *<br>* column 3, line 9-13 *<br>* column 3, line 27-35 *<br>* column 5, line 29-41; figures 2-6 * | 1-3,8,<br>13,15,<br>18,19,<br>22,23 |  |
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| The present search report has been drawn up for all claims   |  |                                     |  |
| Place of search<br>THE HAGUE   | Date of completion of the search<br>16 March 2001  | Examiner<br>Busto, M                |  |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document                       |  |                                     |  |
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